General Land Office Surveys as a Source for Arkansas History: The Example of Ashley County

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> ON LOOKING AROUND AT THIS COR[NER] I cannot but observe the wild & desolate looking appearance of the place. The forest trees are large & blackened by the overflow, long grape vines & rattan vines hung in disorder on all sides. Huge trunks of trees lie on the ground blackened by the fire & broken into fragments by their fall. Nothing indicated the presence of man. We have seen no sign of life, Save that exhibited by the black mosquito, the Rattlesnake & the Bear.[1]

Deputy surveyor Caleb Langtree's rather bleak assessment of a landscape in southern Arkansas captures the struggle that was the General Land Office (GLO) survey. Charged with laying the foundation for settlement of territories ceded to the nation, the surveyors that traversed the public domain of the United States in the eighteenth and nineteenth centuries toiled under adverse and outright dangerous conditions.[2] In addition to establishing the basis of land subdivision used to this day in most of the U.S., this pioneering effort was critical to regional and national development. The work of the GLO mapped previously uncharted territo-

[1]Caleb Langtree, *Arkansas General Land Office Survey* [hereafter *Arkansas GLO Survey*], Book 2289 (Little Rock, 1855), 6. Deputy surveyor Langtree was an Irish immigrant, civil engineer, and cartographer, who, according to 1850 census records, had married an Arkansas native (Eliza) and settled in Little Rock to raise a family that included at least four daughters. By 1867, Langtree was the chairman of the Arkansas Agricultural Bureau and used his surveying experience to tout the state to immigrants; Langtree, "Arkansas–Its Advantages to Immigrants," *De Bow's Review* 3 (January 1867): 68-73.

[2]Dwight L. Agnew, "The Government Land Surveyor as a Pioneer," *Mississippi Valley Historical Review* 28 (December 1941): 369-382.

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ries, evaluated settlement potential, and propelled vast numbers of people to remote and wild sections of America.[3]

GLO surveyors also played an unwitting role in creating sources that advance our understanding of the past. Ecologists, foresters, and archeologists have long used GLO survey notes to assist them in reconstructing presettlement vegetation.[4] The notes left by the surveyors also include many observations of historical interest, especially since they traversed the countryside at the very beginning of American settlement. Thus, the GLO represents an important but underutilized source of evidence that predates most other written accounts.[5] Information collected from the Ashley County area in southeastern Arkansas illustrates the potential of these records for historical research.[6]

GLO surveys were often the work of skilled observers. Well-regarded and relatively educated individuals, government surveyors had mastered technical tasks requiring considerable precision. Many prominent American leaders, like George Washington, Thomas Jefferson, and Abraham Lincoln, had been professional land surveyors at some point in their lives, and other surveyors were of considerable local renown.[7] For instance, Nicholas Rightor, one of the more productive GLO surveyors in Arkansas, co-founded and platted the city of Helena before exploring and mapping parts of the Texas Gulf Coast for Stephen F. Austin.[8] His colorful surveying narratives have provided an abundance of historical

[3]Andro Linklater, *Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy* (New York: Walker & Co., 2002).

[4]Thomas L. Foti and Susan M. Glenn, "The Ouachita Mountain Landscape at the Time of Settlement," in *Restoration of Old Growth Forests in the Interior Highlands of Arkansas and Oklahoma*, ed. D. Henderson and L. D. Hedrick (Morrilton, AR: Winrock International, 1991), 49-65; Francis B. King, "Vegetational Reconstruction around the Powell Canal Site," in *Powell Canal: Baytown Period Occupation on Bayou Macon in Southeast Arkansas*, ed. John H. House (Fayetteville: Arkansas Archeological Survey, 1982), 10-15.

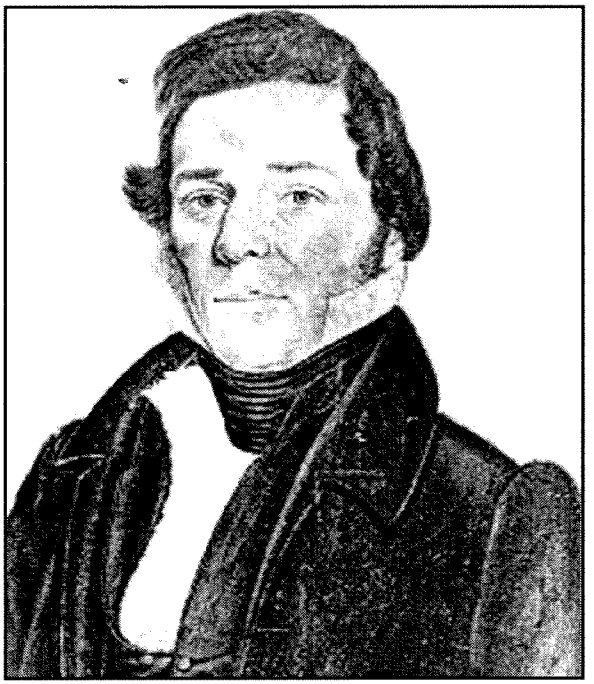
[5]The original copies of the GLO land survey records (including plat maps, interior notes, and boundary line descriptions) are held by the Arkansas commissioner of state lands in Little Rock. The Works Progress Administration transcribed the original handwritten notes back in the 1930s, and this typewritten version has been scanned into a computer archive. For a nominal fee, this digital collection can be accessed by contacting the State Lands Office at (501) 324-9222 or via the internet at: http://www.state.ar.us/land/land.html.

[6]The extent and detail of historical information in the GLO is highly variable and depends largely on the individual surveyor. Not all areas are detailed as well as Ashley County, but some are even better described.

[7]Stephen H. Spurr, "George Washington, Surveyor and Ecological Observor," *Ecology* 32 (July 1951): 544-549; J. T. Baldwin, Jr., "The College of William and Mary and Surveying in Early Virginia," *Surveying and Mapping* 18 (April-June 1958): 179-183.

[8]James L. Glass, "Nicholas Rightor," *The Handbook of Texas Online*, http://www.tsha.utexas.edu/handbook/online/articles/view/RR/fri43.html.

and ecological information for contemporary researchers. Another deputy surveyor, John R. Conway, was a member of an early Arkansas political dynasty, with his father and brothers serving as governors, congressmen, or in other high-level positions in the territorial and state governments.[9]



Deputy surveyor Nicholas Rightor. *Courtesy James L. Glass.*

Not all GLO employees were reputable individuals, however. Some took advantage of their positions to identify prime lands and used this knowledge for personal gain. Land speculation helped drive the establishment of the Government Land Office because people needed clear and unequivocal title to property if they were to profit.[10] William Rector, the surveyor general of the Missouri Territory from 1812 until 1824, was dismissed for nepotism and concerns over the quality of the work of his

[9]Dallas T. Herndon, *Centennial History of Arkansas* (Chicago: S. J. Clarke Publishing, 1922), 1: 237-238.

[10]Linklater, *Measuring America*, 143-159.

contractors.[11] Surveyors were sometimes guilty of poor technique, sloppiness, and even fraud. The Arkansas GLO records contain numerous "resurveys" conducted to clarify questionable efforts. An 1826 letter from William McRee to George Graham, the commissioner of the General Land Office, reported,

> The whole of Mr. Rightors [survey work] lying South of the Arkansas River was rejected: And it consists principally of the Exterior boundaries of Townships, about 11 of which have been subdivided by other Surveyors, whose work is consequently affected by the errors of Mr. Rightor.[12]

Such large-scale errors were rare, however, and attributable to various causes, including poor or defective equipment, unseen magnetic anomalies, and harsh working conditions, though sometimes to incompetence, laziness, or outright malfeasance.

By the time Arkansas was surveyed, outdated "metes and bounds" techniques had been replaced by the congressionally-directed GLO system, ushering in standardized procedures designed for repeatability.[13] This rectangular survey system first subdivided the landscape with township (analogous to latitude) and range (analogous to longitude) lines that were theoretically six miles apart.[14] As these lines were set, they formed parcels called "townships" covering roughly thirty-six square miles. Every full township was then divided into thirty-six numbered "sections" measuring

[11]Mickie Warwick, "West of the Mississippi: Briers and Briers Aplenty," *American Congress on Surveying and Mapping Bulletin* 205 (September/October 2003): 30. Until 1819, the Missouri Territory included Arkansas. Warwick argues that, despite the nepotism, the work of the Rector family in general was "superior to that done by many other contractors." William V. Rector and Thomas C. Rector surveyed parts of Ashley County.

[12]*The Territorial Papers of the United States*, ed. Clarence E. Carter and John P. Bloom (Washington: Government Printing Office, 1934-1975), 20: 255-256. Even though Nicholas Rightor had a number of his traverses resurveyed, much of his work remains in the official GLO files and hence should be assumed to be adequately accurate. Rightor's work was defended by William Russell, a land speculator and party to the effort to remove William Rector as surveyor general; ibid., 19: 642-649. Rightor was also able to secure contracts for surveying until at least 1834, suggesting that his work was still deemed acceptable; ibid., 21: 938.

[13]Lowell O. Stewart, *Public Land Surveys: History, Instructions, Methods* (Ames, IA: Collegiate Press, 1935). Metes and bounds surveying was a English invention with property corners based on key landmarks, such as wooden posts, large rocks, trees, streams, buildings, fence rows, and the like; Linklater, *Measuring America*, 29-47. Obviously, surveys conducted with this system would be upset if the landmarks were moved or destroyed.

[14]"Theoretically," "roughly," "approximately," and "nominally" are used to qualify these statements because the curvature of the earth, magnetic anomalies, and errors made by the surveyors often resulted in irregularly spaced township and range lines that varied notably from the intended design.

approximately one mile on a side and nominally enclosing 640 acres. Surveyors were expected to follow exacting directions in selecting corner location and witness trees and in recording information in their field journals. These instructions changed over time as techniques were refined and technology improved.[15]

	At the Corner to Sects 2.3.10 and 11, Thence
	West on a true line between Sections 3 and 10 T 19 S. Range 5 W Run this line N 88 deg. 15 min. W
4.66	To the left bank of Bayou Bartholomew dis. across obtained by calculation, where Set a post Corner to fractional Sections 3 a 10 from which a Black gum 36 ins dia bears S 43½ E 20 links and pin Oak 24 ins dia bears N 85½ W 45 lks
16. "	The road from Phillipses ferry to Prairie Mer Rouge
33.83	A black gum 18 ins dia
40. "	Set a ¼ Sec Corner post from which a dogwood 5 ins dia bears N 50 3/4 E 24 lks and a Sweet gum 18 ins dia bears S 69½ W 14 lks
47.41	A Sweet gum 20 ins dia
65.50	To the left bank of Bayou Bartholomew, where Set a post Corner/ frac Sects 3 and 10 from which an over cup Oak 25 ins dia bears N 51 E 25 lks and a persimon 8 ins dia bears S 6 W 27 lks The corner to fractional Sects 3 and 10 on the oposite side of the Bayou bears S 63½ W - Thence S 99½ links from this point the Corner on the opposite Side bears W Land, first rate Soil Timber Oak Sweet gum Hickry &c Undergrowth, Cane, Vines briers &c

An example of field notes from deputy surveyor John Clark's 1841 traverse of T19S R5W, near Bayou Bartholomew. Originally handwritten, the Arkansas GLO notes were transcribed in the 1930s by the Works Progress Administration. *Courtesy Don C. Bragg.*

Surveying efforts officially began in Arkansas in 1815 when deputy surveyors Prospect K. Robbins and Joseph C. Brown began demarcating the meridian and baseline for a survey area that would eventually incorporate all of Arkansas and at least parts of five other states, stretching as far north as the Canadian border.[16] Speculators, squatters, immigrants, and former soldiers making land bounty claims clamored for the opening of the Louisiana Purchase for settlement, but a 1785 federal land ordinance (amended repeatedly over the next fifty years) required that the

[15]Stewart, *Public Land Surveys,* 140-198. Stewart's classic text on land surveying contains numerous examples of GLO instruction sets, including one from the survey office in Little Rock printed as a booklet by Eli Colby of the *Arkansas Times and Advocate* in 1843.

[16]Warwick, "West of the Mississippi," 28.

public domain be surveyed before it could be distributed.[17] Native American land claims also needed to be extinguished before clear title was possible. Including resurveys, federal surveying in Arkansas would continue for four decades. The portion of southeastern Arkansas that would become Ashley County in 1848 was traversed between 1818 and 1855, with most of the work completed between 1826 and 1844.

At least sixteen GLO surveyors traversed the Ashley County area, although most finished only one or two townships (see Appendix 1). Each surveyor was assisted by a small crew, many of whom were recruited locally. Although their number and tasks varied, a crew typically consisted of a campkeeper, two chainmen, an axeman, and perhaps a hunter. The campkeeper tended to the camp and prepared meals, chainmen carried the metal measuring tape and other equipment, the axeman cleared the line of sight for the surveyor and blazed and scribed witness trees, and the hunter supplemented the crew's provisions with wild game.[18] Surveyors depended on their crew to help identify features (e.g., the names of lakes or streams) and perhaps even the species of witness trees.[19]

Surveying any part of Arkansas in the first half of the nineteenth century would not have been easy, and the region that would become Ashley County had only a few rugged trails and scattered homesteads prior to 1845. The small survey crews were isolated and sometimes without dependable sources of food, water, shelter, or medical treatment. A careless surveyor or crew member could get lost or seriously injured, as deputy surveyor Nicholas Rightor reported on November 21, 1828: "[i]n consequence of Mr Wm Pugh having burnt his foot very bad by means of our tent getting on fire in the night by the burning of the leaves, he will take the camp."[20] Rightor also suffered the loss of several horses that drowned or ran off, including an $80 steed that disappeared near the Saline River bottoms in December 1827.[21] Since surveyors were paid only a few dollars for every mile surveyed, the loss of a pack animal cost them doubly,

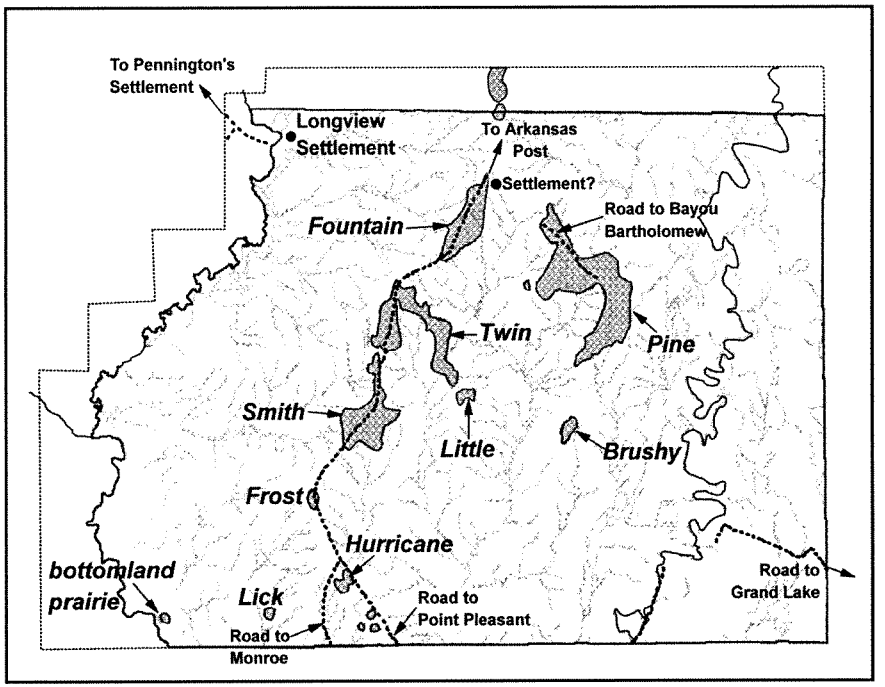
[17]Stewart, *Public Land Surveys*, 1-30. The cash-strapped federal government would often reward soldiers with land grants, and the War of 1812 and various Indian engagements led to a large number of claims. Two million acres between the St. Francis and Arkansas Rivers in eastern Arkansas were allocated to fulfill these bounties, although very few claims were actually homesteaded by former soldiers. S. Charles Bolton, *Territorial Ambition: Land and Society in Arkansas, 1800-1840* (Fayetteville: University of Arkansas Press, 1993), 57-60.

[18]Warwick, "West of the Mississippi," 28.

[19]Identifying some tree species must have been difficult, because most of the Ashley County area surveys were conducted during the dormant period from November to April.

[20]Rightor, *Arkansas GLO Survey*, Book 5 (Little Rock, 1828), 2.

[21]Rightor, *Arkansas GLO Survey*, Book 1 (Little Rock, 1827), 1.



Settlement features (including major trails) and prairies (shaded) during the early 1840s in what would become Ashley County. Prairie locations and names were adapted from GLO plat maps and other contemporary sources. *Courtesy Don C. Bragg.*

given the expense of a replacement horse and the reduction in their surveying productivity.[22] The undergrowth was frequently reported as impenetrable, full of briars and vines, with poisonous snakes, biting insects, bears, and other dangers. Crews frequently endured harsh weather, often working in the cold, driving rains of winter or crossing perilously flooded bottomlands.

The crews themselves also presented challenges to surveyors. With fixed monthly salaries ranging from $15 to $30, crew members did not share the same motivation as the surveyors to work regardless of the

[22]Rightor, Benjamin H. G. Hartfield, and John E. Graham signed GLO contracts in 1834 that paid them $4 per surveyed mile for their work. From these funds, surveyors were expected to supply their expeditions and hire their crews. Failure to complete a contract could result in stiff penalties of several thousand dollars. *Territorial Papers of the United States,* 21: 938.

weather or thickness of the brush.[23] More than once did Nicholas Rightor bemoan the lack of interest his crew had in working in adverse weather. For example, on December 7, 1827, Rightor wrote "on account of rain the hands insist on loafing." The next day, he added, "in consequence of cold rain my hands refuse to work at about 10 A.M."[24] Illness also slowed the surveys. Deputy surveyor John Wilson lost two days of work in November 1834 to sickness, and deputy surveyor Abraham Bowman reported that William J. Climer, one of his chainmen, quit the crew "on account of his health."[25]

Most surveyors had little patience for those that did not meet their standards. In addition to the financial pressure to transit as many lines as possible, surveyors were also expected to certify the quality of their work, as there would be later checks to validate the surveys. Deputy surveyor Laurentine Eiler dismissed Lewis Baret "in consequence of neglection [*sic*] in the fulfilling of his duties," and deputy surveyor Caleb Langtree was even more blunt in firing campkeeper James Cooper for "sheer carelessness and stupidity."[26] Yet the work of the surveyors themselves was not beyond reproach. Langtree had to spend a good part of 1855 resurveying some of southwestern Ashley County not only because of apparent inconsistencies in Nicholas Rightor's original traverse but because another deputy surveyor had failed to complete an 1842 subcontract:

> I [Caleb Langtree] sublet . . . to one Columbus Whitten & paid him for the same but he, after running a few lines irregularly, finally abandoned it, after having sworn to execute the whole– The reason probably was that said township at that time was wholly uninhabited & almost impassable from thickets.[27]

Fortunately, this appeared to be the only full township in Ashley County that was entirely resurveyed, suggesting that fraud and ineptness were not major problems in this area.

[23]Rightor, *Arkansas GLO Survey*, Book 5, 9; Charles E. Moore, *Arkansas GLO Survey*, Book 320A (Little Rock, 1839), 1; Laurentine M. Eiler, *Arkansas GLO Survey*, Book 292A (Little Rock, 1830), 1. Rightor paid Eli J. Lewis $30 for two months' service of "his black boy Dick" (a slave, presumably), a rate that matched that paid the other members of the survey crew.

[24]Rightor, *Arkansas GLO Survey*, Book 1, 9.

[25]John Wilson, *Arkansas GLO Survey*, Book 268 (Little Rock, 1834), 9; Abraham Bowman, *Arkansas GLO Survey*, Book 823A (Little Rock, 1841), 3.

[26]Eiler, *Arkansas GLO Survey*, Book 292A, 1; Langtree, *Arkansas GLO Survey*, Book 971 (Little Rock, 1842), 3.

[27]Langtree, *Arkansas GLO Survey*, Book 2289, 1.

Despite the difficulties surveyors faced, the GLO created important documents of Ashley County's early decades. The people the first surveyors encountered, though, were not the original inhabitants of the land. The earliest settlers of the area had arrived thousands of years before. In the years before first contact with Europeans, southern Arkansas had been inhabited by the hunting and gathering Plaquemine culture.[28] By 1700, disease, war, and migration had altered the Native American tenure of southern Arkansas, now dominated by Tunicans (descendants of the Plaquemines) and Quapaws. The Quapaw tribe ceded the majority of their territory to the federal government in 1818, the year Ashley County was first traversed by surveyors.[29]

GLO surveyors sometimes observed what earlier Indian cultures left behind, but they typically paid little attention to the large prehistoric man-made mounds that occurred across Arkansas, including Ashley County.[30] They made barely a passing mention of the prominent earthworks at archeological sites like Parkin and Toltec Mounds. The normally wordy Nicholas Rightor provided only the following brief description of the mounds at Indian Bay in Monroe County:

> top of mound 5 feet high 30 feet in base from which
> a mound 15(?) Feet in hight [*sic*] 70 feet in base [bears] N 59 W &
> a mound 150 feet in base & 35 feet in hight [bears] S 64 W &
> a mound 100 feet in base & 25 feet in hight [bears] S 3 E[31]

On the other hand, the "Indian mounds" deputy surveyor Caleb Langtree identified in his 1855 resurvey of T18S R9W in Ashley County were probably "prairie mounds" formed by natural causes.[32] Unwittingly, perhaps, GLO surveyors described an environment shaped in other ways by the tribes of upland areas in southern Arkansas. Their use

[28]Frank Schambach and Leslie Newell, *Crossroads of the Past: 12,000 Years of Indian Life in Arkansas* (Little Rock: Arkansas Humanities Council, 1990).

[29]Boyd W. Johnson, *The Arkansas Frontier* (Pine Bluff: Perdue Printing, 1957), 10-13; Charles J. Kappler, *Indian Affairs: Laws and Treaties* (Washington: Government Printing Office, 1904), 2: 160-161, 210-211.

[30]Clarence B. Moore, "Antiquities of the Ouachita Valley, Part 1," *Proceedings of the Academy of Natural Sciences of Philadelphia* 61 (1909): 81; M. Hutchison, "A Guide to Understanding, Interpreting, and Using the Public Land Survey Field Notes in Illinois," *Natural Areas Journal* 8 (October 1988): 245-255.

[31]Rightor, *Arkansas GLO Survey*, Book 1840 (Little Rock, 1825), 1.

[32]Langtree, *Arkansas GLO Survey,* Book 2289, 8, 30, 32. Naming conventions for townships are as follows: T18S R9W is the abbreviation for "Township 18 South Range 9 West." See R. H. Cain, "Pimple Mounds: A New Viewpoint," *Ecology* 55 (January 1974): 178-182, for more on the possible origins of "prairie," "pimple," "mimas," or "gas" mounds, as these low, circular hillocks have been called.

of fire to clear brush, provide forage, and sustain prairie openings would have noticeably affected the landscapes observed by the GLO surveyors. It is likely that many of the trails the earliest surveyors used probably originated with the Native Americans.[33]

Their records suggest that Ashley County surveyors found very little evidence of the early explorers and missionaries who made occasional forays through southeastern Arkansas. The first permanent European settlers of southeastern Arkansas were subsistence farmers, trappers, traders, and hunters, many of Spanish, French, or mixed-blood descent. Land grants that had been awarded by Spain or France were generally recognized by the U.S. government and accommodated in the GLO through the use of "private surveys" that traced their outlines.[34] These atypical property boundaries still remain, being most common along the major watercourses of eastern Arkansas. No such land grants appear in Ashley County, however, even though the original Longview settlement along the Saline River was probably established by a number of French colonists in the early 1770s.[35] Interestingly, Young Etheridge, in his history of Ashley County, doubted the existence of this community because deputy surveyor Nicholas Rightor did not mention it in his 1826-1828 traverses of the region.[36] However, deputy surveyor John Wilson did report a "French settlement" in the vicinity of Longview in 1834.[37]

Through GLO records, one can begin to trace the initial phases of American settlement in the sparsely populated area that would become Ashley County.[38] Development initially followed the major watercourses, even though snags sometimes limited navigability and ac-

[33]Schambach and Newell, *Crossroads*, 37; Joseph Patrick Key, "Indians and Ecological Conflict in Territorial Arkansas," *Arkansas Historical Quarterly* 59 (Summer 2000): 127-146; Young W. Etheridge, *History of Ashley County, Arkansas* (Van Buren, AR: Press-Argus, 1959), 17-18.

[34]Herndon, *Centennial History*, 119-132; S. Charles Bolton, *Arkansas, 1800-1860: Remote and Restless* (Fayetteville: University of Arkansas Press, 1998), 13-15.

[35]John Wordy Buckner, *Wilderness Lady: A History of Crossett, Arkansas* (Little Rock: Rose Publishing, 1979): 57; Rebecca DeArmond-Huskey, *Bartholomew's Song: A Bayou History* (Bowie, MD: Heritage Books, 2001), 23.

[36]Etheridge, *History of Ashley County*, 21.

[37]Wilson, *Arkansas GLO Survey*, Book 268, 11.

[38]The population of Ashley County remained low until the beginnings of commercial logging in the late nineteenth century. The U.S. Census reported 2,058 inhabitants by 1850, growing to 8,042 in 1870 and 19,734 by 1900; U.S. Census Bureau, *The Statistics of the Population of the United States* (Washington: Government Printing Office, 1870), 13; U.S. Census Bureau, *Abstract of the Thirteenth Census of the United States with Supplement for the State of Arkansas* (Washington: Government Printing Office, 1913), 574.

cess.[39] On December 12, 1826, when surveying the east boundary of T15S R9W, Rightor encountered a party of travelers helping a family move to their village "about 20 miles by water above this place."[40] Given Rightor's location, their destination probably was Pennington's settlement near what is now Warren in Bradley County.[41] Rightor and deputy surveyor Jonas Smith also mentioned settlers along Bayou Bartholomew in present-day Ashley County in 1827 and 1828.[42] Though they did not name every person they encountered and could not have seen every improvement, surveyors identified many early inhabitants (see Appendix 2). GLO surveyors often depended on these locals for supplies and other comforts. Nicholas Rightor's crew had once insisted on staying at the cabin of a person named Wheeler during a bout of cold rain in November 1827, and Rightor later sent his campkeeper back to Wheeler to purchase two hundred pounds of pork when his provisions ran low.[43]

The surveys also document the development of a transportation infrastructure. The first crude roads, like the trace between Arkansas Post and Point Pleasant, Louisiana, connected only the major settlements. Gradually, pioneers appeared along the prairies in the interior of Ashley County and extended the road network more thoroughly. For example, in 1841 deputy surveyor Abraham Bowman repeatedly crossed a branch road of the Point Pleasant trace that traveled from a settlement near Fountain Prairie to Bayou Bartholomew.[44] That same year, deputy surveyor John Clark passed Phillips' ferry on Bayou Bartholomew near the trace to Prairie Mer Rouge in northern Louisiana.[45] In 1855, Langtree mentions "neighborhood" roads as well as fences and a cemetery along the boundary sections 20 and 29 in T18S R9W.[46]

[39]Nicholas Rightor described a portion of the Saline River as "partly full of timber and a great deal of drift at the head of it, and not attal [*sic*] traveled by water crafts." He later found Bayou Bartholomew similarly choked. Rightor, *Arkansas GLO Survey*, Book 1, 11, 15, 22.

[40]Rightor, *Arkansas GLO Survey*, Book 6 (Little Rock, 1826), 3.

[41]Etheridge, *History of Ashley County*, 21. Rightor later sent part of his crew to Pennington's settlement to get a replacement horse and other provisions, and Caleb Langtree sought a replacement campkeeper there following his 1842 dismissal of James Cooper; Rightor, *Arkansas GLO Survey*, Book 5, 6; Langtree, *Arkansas GLO Survey*, Book 971, 3.

[42]Rightor, *Arkansas GLO Survey*, Book 5, 8; Jonas Smith, *Arkansas GLO Survey*, Book 1868C (Little Rock, 1827), 47.

[43]Rightor, *Arkansas GLO Survey*, Book 1, 8; ibid., Book 5, 8.

[44]Bowman, *Arkansas GLO Survey*, Book 823A, 1.

[45]Phillip's ferry operated near section 3, T19S R5W. John Clark, *Arkansas GLO Survey*, Book 321A (Little Rock, 1837).

[46]Langtree, *Arkansas GLO Survey*, Book 2289, 16, 24.

GLO reports show how in addition to laying out roads, settlers altered the natural landscapes from the very beginning. During his 1855 resurvey of the south boundary of T17S R9W, Langtree encountered a pine "deadening" covering several acres and later crossed another area where all the large timber had been killed. These deadenings resulted from farmers girdling standing timber and planting crops beneath the snags as a precursor to more intensive agriculture.[47] Fire was also a favorite tool to clear land, kill snakes and ticks, and improve grazing conditions, so it is possible that the burned areas noted by GLO surveyors were not naturally ignited. For instance, Langtree encountered an area along the Ouachita River in which the "timber has fallen & burned up" adjacent to freshly logged pine stands.[48]

The first Ashley County surveyors found little evidence of commercial agriculture except along the lower reaches of the Ouachita River and parts of Bayou Bartholomew. They perceived a considerable potential, however. Conventional wisdom of the time held prairie lands to be particularly fit for agriculture. Rightor described the Smith Prairie in central Ashley County as having:

> a great deal of good farming land and I believe that it will settle and that before long particular about the prairies This day I have traveled through one beautiful prairie of very good soil Very high and beautifully rolling.[49]

Not every section of prairie would yield well-drained, rolling farmland, however. Some early surveyors encountered seasonally wet grasslands, going as far as to call a few locations "marshy."[50] These grasslands also

[47]Ibid., 27-43; F. V. Coville, "Notes on the Botany of Arkansas," in *Annual Report of the Geological Survey of Arkansas for 1888* (Little Rock: Press Printing Company, 1891), 4: 245; Corliss Colby Curry, "A History of the Timber Industry in Ashley, Bradley and Drew Counties, Arkansas" (M.A. Thesis: University of Arkansas, 1953).

[48]Langtree, *Arkansas GLO Survey*, Book 2289, 9; M. Rothkugel, "Forest Management in Southern Pines," *Forestry Quarterly* 5 (1907): 1-10; E. M. Bruner, "Forestry and Forest Fires in Arkansas," *University of Arkansas Agricultural Extension Service Circular 281* (1930); Key, "Indians and Ecological Conflict," 139.

[49]Rightor, *Arkansas GLO Survey*, Book 5, 8.

[50]David D. Owen, an early state geologist arriving in the area years after the GLO surveys were completed, remarked that the prairies were "generally considered worthless for cultivation" because of excessive moisture, although he speculated that improved drainage would increase their arability. Owen did report, though, that the drained lands around Hamburg in central Ashley County were "dry, solid, and under good cultivation." David D. Owen, *Second Report of a Geological Reconnoissance* [sic] *of the Middle and Southern Counties of Arkansas, Made during the Years 1859 and 1860* (Philadelphia: C. Sherman and Son, 1860), 144.

provided important habitat for big game and livestock. GLO surveyors noted game because they depended upon it. Rightor indicated his hunter's success varied. One report mentioned the killing of two deer near some fallen trees, while another noted the time spent searching for a wounded black bear that apparently drowned when it fled into a river.

Large-scale cultivation began as the waterways opened for the transport of bulk goods and the land was cleared of timber.[51] GLO surveys reflect the expansion of cotton culture. Deputy surveyor John Clark crossed a field adjacent to "Clark & Pattons" cotton gin near the banks of Bayou Bartholomew (T16S R5W) in March 1837.[52] Deputy surveyor Charles Moore reported a few plantations and farms along Bayou Bartholomew in T16S R4W and T17S R4W by early 1839 (including one plantation he called "old," perhaps meaning abandoned).[53] The township (T18S R9W) resurveyed in 1855 by Caleb Langtree had a considerable amount of cultivated land. Cotton plantations were mentioned most often, complete with gins ("a new gin putting up west of this cor[ner]") and tended by slaves ("a cotton house in the yard negro cabins to the left"). Occasionally, Langtree estimated crop productivity—according to his reckoning, some Ashley County farms yielded 1,200 pounds of cotton, 30 bushels of sweet potatoes, or 30 bushels of corn per acre.[54] While cotton was the primary cash crop, Langtree also observed locals raising produce like sweet potatoes, corn, potatoes, turnips, and wheat, in addition to pasturing livestock. Few businesses or industries outside of agriculture or logging are mentioned in the Arkansas GLO, although notable exceptions, like "Dr. Danley's Medicine Shop" in Independence County, can be found.[55]

In addition to reporting on existing human improvements like homes, farms, roads, ferries, and mines, surveyors detailed exploitable natural features. For instance, deputy surveyor John Conway in 1843 noted a seam of "stone coal" while meandering the Saline River in what would become western Ashley County, a report confirmed by a state geologist almost two decades later.[56] GLO surveyors often discussed the suitability of undeveloped landscapes for settlement, sometimes favor-

[51]DeArmond-Huskey, *Bartholomew's Song*, 21-30; Corliss C. Curry, "Early Timber Operations in Southeast Arkansas," *Arkansas Historical Quarterly* 19 (Summer 1960): 112.

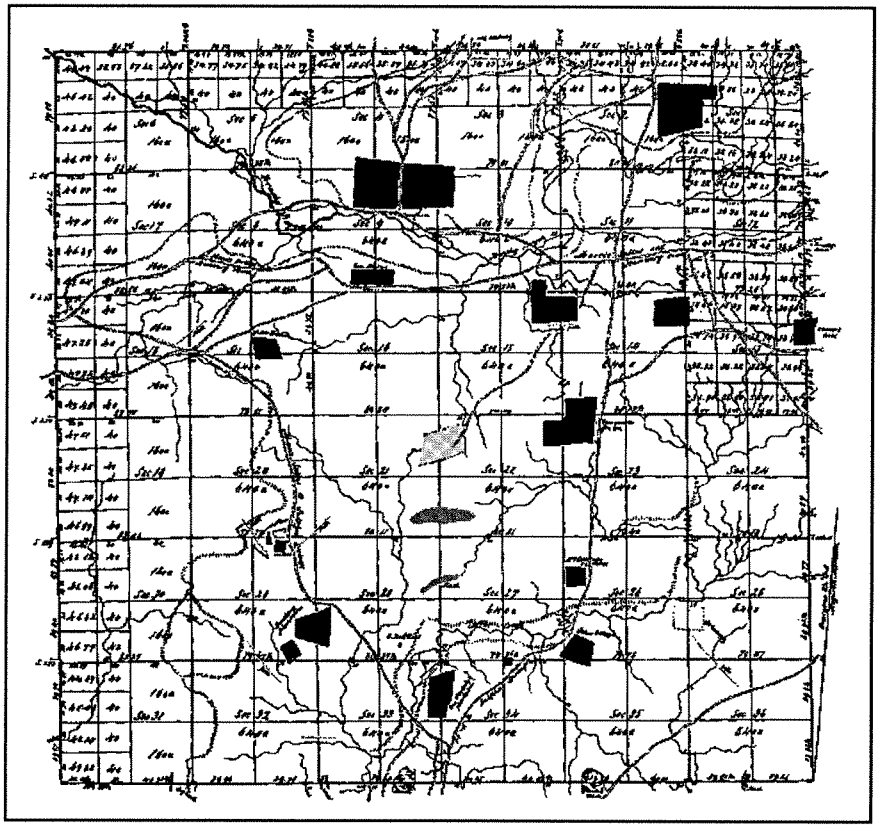
[52]Clark, *Arkansas GLO Survey*, 4.

[53]Charles E. Moore, *Arkansas GLO Survey*, Book 320A (Little Rock, 1839), 16.

[54]Langtree, *Arkansas GLO Survey* (1855), 27, 30, 35, 45.

[55]John W. Garretson, *Arkansas GLO Survey*, Book 2210 (Little Rock, 1854), 2.

[56]John R. Conway, *Arkansas GLO Survey*, Book 967 (Little Rock, 1843), 32; Owen, *Second Report*, 144.



Settlement patterns in a portion of Ashley County in 1855. The plat map of T18S R9W shows a dramatic increase in trails, fields, and houses when compared to neighboring townships just a decade or two earlier. *Courtesy Don C. Bragg.*

ably ("I believe that [T18S R7W] will settle . . . before long particular about the prairies") and sometimes not ("I recollect no places [except along the Saline River and Coffee Creek] . . . that [are] likely to Settle for many years").[57] GLO notes provide volumes of information on flora, fauna, and other natural features of places like Ashley County years before they were examined by trained botanists, foresters, and ecologists.[58]

[57]Rightor, *Arkansas GLO Survey*, Book 5, 8.

[58]A recent review of the botanical literature for Arkansas found very few studies dating to before 1860, with most occurring after 1880; James H. Peck and Carol J. Peck, "A Bibliographic Summary of Arkansas Field Botany," *Proceedings of the Arkansas Academy of Science* 42 (1988): 58-73.

For instance, surveyors used many impressively large trees to witness survey corners and section lines. Two different bald cypress witness trees from the bottomlands of western Ashley County approached twelve feet in diameter, while the biggest pine was seventy-two inches in girth and a few oaks and gums exceeded eighty inches.[59]

In noting the rich stands of timber, GLO surveyors anticipated the development of a timber industry in Ashley County. The forested bottoms along Bayou Bartholomew in eastern Ashley County sometimes commanded twice the selling price of uncleared uplands.[60] Lumbering during the nineteenth and early twentieth centuries was an opportunistic industry, dependent on the economics of the times and the availability of wood. Initially, bald cypress was the timber species of choice, and several GLO surveyors commented on the quality of the Ashley County cypress. Deputy surveyor L. M. Eiler reported land as valuable solely because of its bald cypress timber, and Rightor found along Bayou Bartholomew "the best and largest of Cypress timber."[61] Trees along major rivers were cut first, followed by the less accessible interior forests. Etheridge reported that some areas along the Ouachita and Saline Rivers may have been commercially logged as early as 1826.[62] In 1827, Rightor identified "a Cypress Swamp . . . where Mr. Henness is now cutting a raft [of logs]" at the confluence of the Saline and Ouachita (section 33, T17S R10W). Caleb Langtree also mentioned logging activity in the same area in 1855, probably cutting loblolly pine to float to mills in Louisiana.[63]

In studying GLO records, it is important to remember that these men were not trained as historians or botanists. The observations made were those of ordinary citizens hired to do a difficult job under trying conditions in a place that may have seemed as remote as the moon. But in recording information about people and landscapes, they made a vital contribution to the historical record. Trudging through the mosquito and

[59]Don C. Bragg, "Natural Presettlement Features of the Ashley County, Arkansas Area," *American Midland Naturalist* 149 (2003): 1-20.

[60]*Biographical and Historical Memoirs of Southern Arkansas* (St. Louis: Goodspeed Publishing Company, 1890), 880.

[61]*Biographical and Historical Memoirs of Southern Arkansas*, 935; J. A. Putnam and H. Bull, "Trees of the Bottomlands of the Mississippi River Delta Region," *U.S.D.A. Forest Service Southern Forest Experiment Station Occasional Paper 27* (Washington: Government Printing Office, 1932); Curry, "Early Timber," 112; Eiler, *Arkansas GLO Survey*, Book 293A (Little Rock, 1830), 3; Rightor, *Arkansas GLO Survey*, Book 1, 10-11.

[62]Etheridge, *History of Ashley County*, 25.

[63]Rightor, *Arkansas GLO Survey*, Book 1, 11; Langtree, *Arkansas GLO Survey*, Book 2289, 9; Curry, "Early Timber," 111-118. According to Curry, Ashley County did not have any steam sawmills before 1857, with most lumber cut by hand in small-scale whipsaw operations.

snake-filled swamps of Ashley County, it is doubtful that these early land surveyors had any idea of that legacy. Fortunately for modern chroniclers, their written observations, when used in conjunction with more familiar historical sources, provide invaluable insights into territorial and antebellum Arkansas.

* * *

Appendix 1. General Land Office deputy surveyors who worked the area that would become Ashley County, Arkansas, the years they worked, and the townships they surveyed.

unknown[a] (1818)
south boundary of T15S R9W[b] (later redone by Rightor)

Will (William) V. Rector (1823)
T16S R4W

Thomas Mathers (1824)
T15S R4W

Charles J. Drury (1824)
T15S R5W, T15S R6W

Thos. (Thomas) C. Rector (1824)
T15S R5W, T15S R6W

N. (Nicholas) Rightor (1826-1828)
T15S R8W, T16S R4W, T16S R5W, T16S R6W, T16S R7W, T16S R8W, T16S R9W, T17S R4W, T17S R6W, T17S R7W, T17S R8W, T17S R9W, T17S R10W, T18S R4W, T18S R5W, T18S R6W, T18S R7W, T18S R8W, T18S R9W, T18S R10W

Jonas Smith (1827)
T15S R4W

L. (Laurentine) M. Eiler (1830)
T16S R8W, T16S R9W, T17S R9W

John Wilson (1834-1835)
T15S R7W, T15S R8W

John Clark (1837, 1841-1842)
T16S R5W, T19S R4W, T19S R5W, T19S R6W

J. E. Graham (1837)
T19S R4W

Chas. (Charles) E. Moore (1839, 1844)
T17S R4W, T18S R10W

A. (Abraham) Bowman (1840-1842)
T16S R6W, T16S R7W, T17S R6W, T17S R7W,
T17S R8W, T18S R4W, T18S R6W, T18S R7W,
T18S R8W, T19S R6W, T19S R7W, T19S R8W,
T19S R9W

Alexr. (Alexander) V. Brookie (1841)
T18S R4W, T18S R5W

C. (Caleb) Langtree (1842, 1844, 1855)
T15S R9W, T17S R9W, T18S R9W, T18S R10W,
T19S R9W, T19S R10W

J. (John) R. Conway (1843)
T17S R10W

James M. Danley (1844)
T19S R10W

[a]Surveyor names are provided as spelled in the GLO notes (alternate spellings in parentheses).

[b]T15S R9W=Township 15 South, Range 9 West. Some townships are listed more than once because different surveyors may have traversed the east or south boundaries or the interior of the township. Townships not listed were missing from the CD archive of the GLO notes.

* * *

Appendix 2. Settlers and improvements specifically identified in the Ashley County GLO notes

I. R. Allen[a] (1855) new home
sections 28&33, T18S R9W

Hon. J. R. Allen (1855) home and field
sections 11&14, T18S R9W

Jno. Bells (1855) field and home
sections 1&2, T18S R9W

Wm. Brady (1827) home
section 31, T15S R4W

Jno. D. Camp (1840) Chicot County justice of peace (JP)[b]
not listed

Mr. Clark (1828) home
section 6, T16S R4W

Mr. Conners (1855) field
section 13, T18S R9W

Clark and Patton (1837) cotton gin
sections 13&24, T16S R5W

Mr. Fisher (1839) farm
section 8, T17S R4W

Franklin (1842) home
section 1, T15S R9W

Widow Gillespies (1855) cotton field
sections 26&27, T18S R9W

General Hankins (Hawkins?) & son (1855) home
sections 28&33, T18S R9W

Mr. Henness (1827) logging a raft of cypress
section 33, T17S R10Wl

Squire Hookers (1855) home
sections 9&16, T18S R9W

Mr. Hopkins (1828) home and field
section 7, T16S R4W

Hundley (1855) home
section 12, T18S R9W

Hundley (1855) home
section 7, T18S R8W

George McClendon (1841) home and field
sections 14 & 15, T16S R7W

Jesse McGary (1827) improvement
section 22, T15S R4W

Mr. Ozments (1842) home and field
section 1, T15S R9W

Wm. Perry (1827) home
section 32, T15S R4W

Phillips (1841) ferry
section 3, T19S R5W

Pressler (1827) plantation
section 12, T17S R10W

Roberts (1839) plantation
sections 5 & 6, T16S R4W

John Smith (1827) improvement
section 22, T15S R4W

William Taylor (1841) Chicot County JP
not listed

Chs. Ward (1827) home
section 32, T15S R4W

Joseph Wheeler (1827) home
section 13, T17S R10W

Mr. W. Williams (1855) field and home
sections 9&10, T18S R9W

Joseph M. Williamson (1841) Chicot County JP, field, cotton gin
section 15, T19S R5W

Old Mr. Wimberley (1855) home
sections 14&23, T18S R9W

Abner Wimberley (1855) field and home
sections 22&23, T18S R9W

Geo. Wimberley (Winterly?) (1855) garden and home
sections 33&34, T18S R9W

Richd. Wimberly (Wimberely?) (1855) garden and fence
sections 27&34, T18S R9W

Wm. Wimberley (1855) field
sections 13&14, T18S R9W

[a]Note that settler names are spelled as provided by the surveyors, with alternate spellings in parentheses.

[b]Much of eastern Ashley County was a part of Chicot County until the latter half of the 1800s.